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THE ABERNETHIAN SOCIETY

This year the Abernethian Society celebrates the 150th anniversary of its foundation. We offer our congratulations and our best wishes for the future.

During the war the Society has not flourished as in former days. Evacuation to sector hospitals, air raids, the increased commitments of staff and students, the scarcity of possible speakers, and all the hundred and one vicissitudes of war have made it impossible to arrange regular meetings: and further, only a small number of people have been able to attend such meetings as have been held. It is gratifying and appropriate that in this anniversary year the Society is showing renewed signs of life. The Society has had its ups and downs before now and we are confident that now, as before, it will triumph over all obstacles and resume its important place in the life of the hospital.

A hospital medical society is not merely a means of retailing detailed or obscure medical knowledge. Nevertheless, perhaps its most obvious function is to enable us to hear at first hand distinguished medical and scientific men from the hospital and from outside it. This instruction in scientific method and in the first principles of research is a valuable adjunct to medical education. Secondly, such a society allows of lectures and discussions on a broader range of subjects, on the history and on the ethics of medicine, and upon any number of subjects allied to its teaching or practice. Thirdly, there is an important social function that the Society can perform. At its meetings members of the staff and students, whether nearly qualified or at the beginning of their career, can meet on common ground and are united by a common band of interest. From this point of view the Abernethian Society is unique among the societies and clubs of the medical school and potentially a powerful integrating factor in the life of the hospital.

We should like to appeal to all readers of the JOURNAL to support the officials of the Society in getting the wheels running smoothly again. It serves no useful purpose to conceal the fact that those who have struggled so gallantly in recent months to re-establish the Society on its old footing have had to fight the apathy of a large section of the student body. This wholly regettable state of affairs is doubtless due in some measure to the fact that the traditions of the Society have become obscured by the smoke and the fog of war. The occasional meeting that has been held, though each one has been excellent in itself, has not given an accurate picture of what the Society has to offer when it is working under normal conditions.

With the return to more normal conditions we hope that the Society will extend the range of its activities to include, in addition to lectures, discussions, debates, the showing of films of scientific interest and revive the "clinical evenings," at which cases of exceptional interest can be demonstrated. The Society should not be so awed by its long and distinguished history as to be frightened of innovations. In this connection we would suggest that more attractive methods of publicity could be used to advantage. The dreary, pencilled posters, better suited to announcing the board meeting of a firm of undertakers, invest the announcement of even the most fascinating meeting with an air of shamefaced, apologetic gloom. Whenever possible meetings should not be held in the lecture theatres. Their barren and formal atmosphere serves to create the impression that a meeting is merely an additional, but voluntary, lecture. The likelihood of profitable informal

discussion is greatly reduced.

In 1895 to celebrate the centenary of the Abernethian Society the Committee were able to organise a very ambitious programme of celebrations, including demonstrations in all the various departments of the hospital, lectures, a play, a concert and, believe it or not, a dance in the dissecting room. Presumably this year such indulgences will not be possible, but in an unspectacular manner we can all contribute to making 1945 just as significant a year in the history of the Society. The co-operation and support of the staff and students can re-establish the Society on a firm and enduring basis.

SIR GIRLING BALL

It is with profound regret that we have to announce the death of Sir Girling Ball. His death is a grievous blow to the Hospital and Medical College, We take this opportunity to offer our condolences to his family and friends. A full obituary of Sir Girling will appear in the September issue.

IRON AND ANAEMIA

By R. Bodley Scott

Of all the substances needed to preserve health, that of which the human body most commonly shows signs of deficiency is iron. The earliest overt effect of this deficiency is an anæmia, described in hæmatological jargon as hypochromic and microcytic, for the red blood cells are poorly filled with hæmoglobin and often reduced in size. Proof of its cause is given by the rapid cure of this anæmia by iron. An attempt is made in this paper to show how an understanding of iron metabolism not only reveals the ways in which iron deficiency may arise, but provides this group of anæmias with a unity hitherto lacking and gives the physician a logical basis for their management.

From the standpoint of iron deficiency, the element can be said to exist in the body in three forms: first, as blood iron; secondly, as iron stored but available for hæmoglobin formation, and thirdly as tissue iron. This last may be dismissed briefly: iron is an essential component probably of all living animal cells but, however profound the deficiency, this tissue iron is never withdrawn for hæmoglobin formation; thus its present discussion is irrelevant.

In the blood, iron is again in three forms. The bulk is in combination in hæmoglobin, of which it constitutes 0.335 per cent. by weight; the total hæmoglobin iron in an average normal adult amounts therefore to some 2.65 gm. The plasma and "easily split off" fractions account for the remainder. In plasma the quantity varies in health between 0.05 and 0.18 mgm. per 100 ml.; it is unionised, trivalent and possibly in combination with plasma globulin.[17, 19] The "easily split off" fraction is so called because it is split off when blood is treated with dilute mineral acids; it amounts to between 1.8 and 5.0 mgm. per 100 ml.; its chemical nature is unknown, but it is in organic combination and may represent an intermediate step in the breakdown of hæmoglobin to bilirubin.[16, 19]

Storage iron is the third type normally present in the body. This exists probably as ferritin, an iron-phosphorus-protein complex, in the liver, spleen, bone-marrow, lymph-nodes and sometimes in the kidneys.[3] When the metal is required for hæmoglobin synthesis, it is withdrawn from these stores. The total amount held in this form is uncertain, but experience has shown that a normal adult's hæmoglobin may be reduced by hæmorrhage to a level of 50 per cent. and return to normal without the administration of additional iron. There must be, therefore, in an available state, sufficient to rebuild at least half the normal mass of circulating hæmoglobin, that is, about

1.32 gm.

Knowledge of the excretion of the metal has grown within recent years: it is known that only small quantities (0.03—0.8 mgm. daily) are lost in the urine;[4] loss in the bile is of a similar order (0.2 mgm. daily in a dog) and bears a constant relationship to the activity of blood destruction.[5, 11] For years it was accepted that the major excretion was by the colon, but work of the past decade has shown this to be untrue.[14] To determine the route of excretion, balance experiments are unsatisfactory as it is impossible to distinguish, by fæcal analysis, between iron which has passed unabsorbed down the alimentary tract and that which has been absorbed and later excreted by the colonic mucosa. In normal adults on high or low intakes of iron, fæcal loss almost exactly equals oral intake and parenteral injection is not followed by notable increase in fæcal excretion.[15] Thus the amount excreted by the bowel is small, and it is justifiable to conclude that the total excretion of iron by the body is insignificant and no mechanism exists whereby it can be varied to regulate iron metabolism.

But a regulatory mechanism does exist and it is founded upon the control of absorption. At this point a digression must be made to explain the method used to elucidate this process. It is possible, by bombarding a solution of an iron salt in a cyclotron, to endow the metal with radioactive properties while its biological behaviour is unaltered. Such radioactive iron can be detected in the most minute quantities by virture of its emission of beta-rays; it is thus distinctively labelled and if administered to an animal or human being, its subsequent course in the body can be followed. By this means it has been possible to show that absorption of iron is controlled by the body's needs for the element: an iron-deficient dog will absorb 4.1—12.7 per cent. of an oral dose of radioactive iron, contrasted with 0.8-0.25 per cent. in a normal animal.[6, 7] Similarly the iron-deficient human shows an uptake three to ten times that of the normal and in those conditions where iron stores are high, such as pernicious anæmia in relapse, absorption is sub-normal.[1]

Following acute blood loss, there is no increase in absorption for seven days; after this period, which coincides with the utilisation of storage iron, uptake reaches a high level even though the hæmoglobin reading has started to rise.[8] This observation suggests that depletion of iron reserve, rather than anæmia, controls the process.

The details of this unique regulatory mechanism remain unknown: some view it, in a physico-chemical light, as dependent on relative ionic concentrations of iron, others as a function of the protein metabolism of the intestinal epithelium.

The site of absorption is still uncertain, although it is generally held to be the stomach and upper part of the small bowel. In the dog, it has been shown that iron is rapidly taken up from gastric, duodenal and jejunal pouches.[8] Uptake depends secondarily on conditions in the alimentary tract at the site of absorption: the metal must be in a soluble state and probably in the ferrous form. The normal gastric acidity promotes solubility and prevents conversion of ferrous to ferric ions; thus achlorhydria and administration of alkalies impair assimilation. A further impediment is offered by the formation of insoluble compounds of iron with phosphorus, amino acids and bile salts. Much of the normal dietary intake is in organic combination and consequently of low availability.

After absorption, iron is transported in the plasma. A single dose of an iron salt by mouth is followed by a rise in the plasma iron, maximal in 2½ to 5 and falling to normal in 12 hours.[17] In iron deficiency the figures for plasma iron are low (0.015—0.040 per 100 ml.) and, in some cases, the rise following an oral dose is greater than normal. In patients with pernicious anæmia in relapse, where iron stores are high, the rise is negligible.[18] This transient increase in plasma iron given no indication of the total quantity of the metal absorbed.

Details of the metal's metabolism from this stage onwards are uncertain. Experiments with the radioactive isotope have shown that, of iron injected or absorbed, much is converted in the liver to ferritin; it is probably in this state that storage occurs.[9] When necessary the incorporation of iron into hæmoglobin is effected with great rapidity, for radioactive iron can be demonstrated in red blood within four hours of its oral administration.[10]

On this survey of iron metabolism must follow a consideration of the body's normal needs for the element, from birth to adult life. The new-born infant receives from its mother an initial endowment but, after birth, it is dependent upon external sources for replenishment. Within the first year body weight is trebled, and with this increase in stature goes an increase of blood volume and of the total mass of circulating hæmoglobin requiring an additional 160 mgm. of iron.[13] Until full skeletal growth has been achieved, this progressive increase in total hæmoglobin and its accompanying

demand for additional iron continue; to these must be added the requirements for the tissues and for the maintenance of storage depots.

Apart from the first year of life, bodily growth shows a sudden increase at puberty which is paralleled by an increased call for iron. By the age of 21 years growth will have ceased and, in the male, the iron requirements will fall to that needed to make good the loss in the urine and fæces; this is probably not above 10 mgm. a day. At any time the balance may be disturbed by loss of iron through external hæmorrhage. Loss of blood by epistaxis, from hæmorrhoids or at a surgical operation are banal events, but they must be reckoned as well as loss of iron, only to be repaired by increased absorption.

In the female, there are physiological opportunities for blood loss denied to the male. Puberty sees the onset of menstruation as well as a rapid increase in growth. At each period an average of 50 ml. of blood is lost and, if menstruation occurs monthly between the ages of 13 and 47 years, the total loss will amount to 22 litres of blood, 3 kmg. of hæmoglobin or 10 gm. of iron. Pregnancy offers no respite; the fœtus robs its mother of 375 mgm. of iron, while at least a like quantity is lost in the placenta and by post-partum hæmorrhage. After parturition the economies of amenorrhœa are offset by a daily loss of 0.85 mgm. in the milk. Thus in a woman, there is a physiological loss of iron throughout the reproductive period, in addition to the numberless opportunities for pathological hæmorrhage which beset the most tranquil lives.

Normally, as these losses are incurred, they are made good by a diet adequate in available iron and by gastro-intestinal conditions offering no bar to absorption. But if intake is defective, or uptake hindered by achlorhydria, the time will come when the account is overdrawn and further expenditure of iron will be reflected in a falling hæmoglobin level. In such circumstances, symptoms of deficiency might be anticipated at those epochs when the call for iron, on account of rapid growth or increased physiological loss, is most insistent; and, indeed, hypochromic anæmia is commonly seen during the first year, at puberty, especially in the female, and in middle-aged women who have been stripped of their iron reserves by thirty years of menstrual bleeding.

It is now time to point the clinical application of this discussion. The importance of iron deficiency lies in its widespread and frequent incidence. An indication of this frequency is given by some figures from Great Britain, where, in 1943, 39 per cent. of 917 municipal school children between the ages of 5 and 12 years and 24 per cent. of 570 pregnant women were found to have hæmoglobin readings below normal.[2]

In clinical practice, iron deficiency anæmia may occur at any age or in either sex, but it has long been the custom to recognise several variants which have come to be regarded as distinct "diseases." These variants may be listed as follows:

1. Nutritional hypochromic Anæmia of Infants.
2. Chlorosis.
3. Hypochromic Anæmia of Pregnancy.
4. Hypochromic Anæmia of chronic Blood Loss.
5. "Idiopathic" hypochromic Anæmia.

In all, hypochromic anæmia is found, all are cured by adequate dosage with iron; the variables are the age of incidence and the ways in which the deficiency arises. It is these aspects which must now be considered.

Nutritional hypochromic anæmia commonly appears in the third month of life, particularly in premature and artificially-fed infants. It is at this age that rapid growth increases the demand for iron and supplies may fail for several reasons: intake may be reduced, for cow's milk contains less iron than human, or absorption may be disturbed by gastro-enteritis. More frequently the infant has been born with a subnormal iron store: an anæmic mother is unable fully to endow her baby; accumulation of stocks may be curtailed by prematurity; twins must share between them the available maternal iron. Any combination of these circumstances may lead to supplies being insufficient to meet the infant's commitments and thus to the clinical state of iron deficiency.

It is conventional to say that chlorosis has disappeared, but it is rather that fashions in nomenclature have changed. All clinicians agree that hypochromic anæmia in pubescent girls is not uncommon. The iron requirements at this age are exalted by the sudden increase in bodily growth and, in girls, by the onset of menstruation. If, during perpuberal life, stocks have not been maintained by an adequate intake of iron; if, as is common, bleeding during the first years of the catamenia has been excessive, then the stage is set for iron deficiency. The better diet of present day children makes these conditions less common but chlorosis still occurs, although it is usually called by some other name.

In pregnancy, the demands of the fœtus drain the maternal stores of iron. Intake and absorp-

tion may be diminished by gastro-intestinal unrest and, during the second trimester, the decline of gastric acidity further depresses uptake. Iron deficiency is common, but the duration of pregnancy is too short for it to become profound; severe hypochromic anæmia suggests, either that the woman was anæmic before she was pregnant, or that there has been pathological blood loss.

It is obvious that prolonged hæmorrhage entails prolonged loss of iron which, if it outstrips absorption, will in time lead to a state of deficiency. The common sources of such bleeding are the uterus and the alimentary tract, but the latter has a special significance, for only there can hæmorrhage occur without the patient's knowledge. The cause may be peptic ulcer, hæmorrhoids or carcimona but, if the whole human race is considered, the most frequent reason is infestation with hookworm. Deficiency will arise the more rapidly if the intake of iron is insufficient or if uptake is hindered by gastro-intestinal derangement. In one series of patients with this type of anæmia, there was achlorhydria in one-third.[13]

The last clinical variant is "idiopathic" hypochromic anæmia. It has long been customary to recognise as a "disease," a hypochromic anæmia of middle-aged women, often attended by such epithelial changes as glossitis and spoon-shaped nails, and cured by treatment with iron. This anæmia occurs at a period when the cumulative effect of iron loss by thirty years of menstruation and repeated pregnancies has begun to assert itself. If the diet throughout these years has been adequate and uptake efficient, the physiological loss of iron will be arrested by the menopause before defficiency occurs. But with years of diet poor in iron and with uptake impaired by the achlorhydria which 60 per cent. of these patients show, deficiency is almost inevitable. If, in addition, there has been pathological loss of iron, it is made certain; and the more closely these patients are questioned the more frequently is a story of hæmorrhage obtained. Bleeding from hæmorrhoids, recurrent epistaxis, mild degrees of menorrhagia, repeated pregnancies, perhaps with post-partum hæmorrhage a little exceeding the normal, surgical operations: such episodes recur in their histories with monotonous constancy. These reflections suggest that the anæmia is miscalled "idiopathic" and that the cause lies on the debit side in the summation of forty years of iron loss, while subnormal intake and defective uptake of iron have combined to keep the credit columns blank.

From these considerations there are lessons to be learned in the approach to the patient with hypochromic anæmia. Search should be made for the cause: the history may reveal an inadequate diet, gastro-intestinal disease, recurrent pregnancies, menorrhagia or other blood loss. But, before these are accepted as sufficient, active hæmorrhage must be excluded. This can occur, unknown to the patient, only into the alimentary tract and there be recognised by examination of the stools for occult blood; if blood is present, its origin must be sought with the protoscope, the sigmoidoscope or the opaque meal. Not until all these data are available should treatment be undertaken; for a carcimona of the colon may be overlooked in the satisfaction of seeing the anæmia accompanying it relieved by iron.

The principles of treatment are two: to repair the deficiency by administration of iron, and to control the factors responsible for it having arisen. To consider the second first: hæmorrhage, if still in progress, should be arrested; hæmorrhoids treated, hookworms expelled, menorrhagia controleld or a carcinoma of the colon resected. A normal mixed diet will supply the adult's requirement of 12 mgm. of iron a day;[12] although this has a greater prophylactic than therapeutic value. Gastro-intestinal factors which tend to impede assimilation should, where possible, be corrected. There remains but to remedy the deficiency by oral administration of iron. There is seldom need for parenteral injection which is painful and dangerous, for the effective is so little below the toxic dose. Iron should be taken until the hæmoglobin level is normal, and for four weeks afterwards to replenish the iron reserve. If hæmorrhage has been arrested, the hæmoglobin reading will remain normal without further medication; until it reaches 65 per cent. the patient should be at rest in bed.

The preparation of iron best used has been much debated. There is clinical evidence that, weight for weight, ferrous salts are more effective than ferric; but, provided an adequate dose is given, a satisfactory response follows most preparations. Witts[21] defines as an average effective dose, one which will cause an initial hæmoglobin reading of under 50 per cent. to rise by an average of 1 per cent. a day during an observation period of 25 to 40 days. The average effective doses of the four common preparations are set out in the table.

AVERAGE DAILY EFFECTIVE DOSES OF IRON PREPARATIONS

	Grammes	Grains	Iron mgm.
Reduced Iron ...	1.5-6.0	23-90	1200-5000
Ferrous Sulphate	0.6	10	180

Ferrous Carbonate (Blaud) ...	3.0-4.0	45-60	300-400
Ferric Ammonium Citrate ...	4.0-8.0	60-120	800-1600

This dosage suffices for the majority but there are occasional failures. In some, lack of absorption is responsible and this may be remedied by ascorbic acid in doses of 0.5-1.0 gm. daily, probably through its reducing action preventing conversion to the ferric state.[20] In others, a still larger dose is required. In the few in whom no response can be obtained, some cause of impaired hæmoglobin synthesis, such as chronic infection or renal failure, must be sought.

This review has attempted to show how the causes of iron deficiency anæmia lie in disturbances of normal iron metabolism; but it has, in another sense, a wider application. Growing knowledge of iron metabolism has enabled us to substitute a single simple concept for a disorderly group of anæmias. This reorientation of our ideas to explain and unify apparently unrelated "diseases" in the light of physiological fact indicates an important trend in present day medical thought.

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THE THIRD-YEAR STUDENTS CORRESPONDENCE ON THE EXISTING ABUSES AT ST. BARTHOLOMEW'S HOSPITAL, 1853

In the *Lancet* of January 1st, 1853, a letter was published from a third year student at St. Bartholomew's Hospital expressing "the general and well founded sense of dissatisfaction existing among all classes of students" with the administration of the hospital and the medical school, complaining in particular of the teaching methods of Mr. Stenhouse, lecturer in chemistry, Dr. Hue, senior physician to the hospital and Dr. Burrows ("that excellent proficient in the art of auscultation"). The author of what, even in those days of plain speaking and hard-hitting public controversy, must have been an outspoken letter, deemed it wiser not to sign his name but contented himself with the *nom-de-plume*" "A Third Year's Student." In later numbers of the *Lancet* other students from the hospital joined in the correspondence.

Finally the Third Year's Student published the correspondence as a pamphlet, at his own expense, and prefaced it with a long address to the President and Governors of the hospital. This address, couched in rolling and sonorous phrases reminiscent of Mr. Gladstone at his most verbose, in addition to renewing the charges against the unfortunate Dr. Hue, who comes in for tremendous abuse, also complains of the preponderance of surgical over medical beds, the conditions in the eye ward, the absence of an obstetrical ward, the condition of the dissecting rooms, the chemical laboratory and the pathology museum, the distribution of prizes and the discomforts endured by resident students. We publish below extracts from the correspondence and the address.

The pamphlet was sent to us by Dr. Langton Hewer. It belonged to Dr. Hewer's grand-

father, who was a student at the time and who is mentioned by name—" Mr. Hewer, Sir, a student of high character, of a firm but most charitable disposition." Mr. Hewer took no part in the correspondence but a pamphlet that he wrote is used by the Third Year's Student as ammunition against the Governors. ". . . Mr. Hewer published a pamphlet directing the attention of the Governors to the great deficiency of religious instruction afforded to the patients and the difficulty that existed of obtaining the chaplain's aid before a patient was *articulo mortis,* even when his attention had been specially directed to the case. This pamphlet, although written in an illiberal and unfair spirit, contained truth in almost every line. Yet at the annual distribution of prizes which took place three weeks later, Mr. Lawrence in giving away the surgical prize, took occasion on the part of the Governors to ' refute the calumnious charges which had been brought forward ' and which he stigmatised as ' the presumtuous and audacious conduct of a rash youth,' and authoritatively denied the charges as ' wholly without foundation ' and yet, Sir, that the Treasurer had a committee meeting of Governors within a month of the time this statement was made and actually appointed three extra chaplains and compelled the Rev. Mr. Mitchell to resign the professorship of natural philosophy he held at the time, on the ground that it was incompatible with the proper discharge of his duties to the patients of the hospital." (A Third Year Student in the *Lancet,* Jan. 1st, 1853.)

" Our chemical lecturer at the present time is a Mr. Stenhouse, a gentleman of great constitutional nervousness, but of good repute, I believe, as an authority on organic analysis He is a ' canny Scot ' of the ' veriest brogue ' and quite incapable and inexperienced in the art of giving lectures. I have again and again listened to this gentleman, and assure you, that besides being utterly unable to clothe his thoughts in even clear language, his experiments frequently if not always fail, although conducted by himself; while, whenever he attempts to make a calculation, or work out a chemical scheme, his confusion is so great and his powers of arithmetic so deplorably incorrect, that it almost always ends in utter failure, the consequence being personal discomfort and the derision of the class . . . and thus his habitual nervousness is so much increased that now his lectures in every respect are so extremely badly, if not unintelligibly, delivered, so carelessly arranged and so utterly unsuited to his class that our dissatisfaction is general and just." (Third Year's Student in the *Lancet,* January 1st, 1853.)

" Dr. Hue, like his colleagues, receives about £600 or more a year, as his share of the annual sum paid by the students for the advantage of attending ' Hospital Practice.' But his brother physicians discharge their quota of allotted duties. Dr. Hue DOES NOT. He receives our money but tranquilly smiles with the most placid dignity at the mere hypothesis of making the slightest return for this " respectable annuity.' He denies students access to his wards, scorns the chimera of possessing clerks; and steadily refuses on all occasions, to impart to us the information which his opportunities—if not his talents—qualify him to afford. While the routine in his wards is of the most *recherché* description. Seated in a fauteuil of cushioned luxuriousness this ' Venerable Physician ' summons to his side the suffering inmates of his hospital beds. Tottering and infirm, languid and sick, all who are supposed to possess even a capability of locomotion, visit in turn their ' senile " official. Enter his wards—this is a frequent scene; while if you attempt in his absence to discover the nature or treatment of a case, you will find that the Board which is suspended at the head of each bed is either a blank as to the patient's disease or else you observe in the minutest text the anomalous hieroglyphics of the ' self-opiniated apothecary '! " (Ther is a note in the margin in Mr. Hewer's hand—" Written in shorthand "—by the last lines of this paragraph.) (Third Year's Student address to the Governors.)

" Dr. Hue deprives us of the benefit of his wards; he refuses to take clinical clerks; and he never contributes his share of clinical instruction. Yet why does he retain his post? If too decrepit and feeble to discharge the just responsibilities that devolve on his position; if too infirm and aged to offer us the result of his mature experience; if too perverse and peevish to possess clinical clerks, lest their modern knowledge and bustling habits should jar with his cumbersome dogmas and dilatory proceedings . . ." (A Third Year's Student, *Lancet,* January 22nd, 1853.)

" Lastly I would remark, our instruction in ausultation is extremely deficient. Dr. Burrows is the only physician who practises or relies on it. Dr. Roupell, indeed, uses it, but more, I believe, *pro formâ* than from any confidence he himself puts in it. While to Dr. Hue, the stethoscope has ever been a hidden mystery, which at his ' advanced age ' he is not likely to fathom." (A Third Year's Student, *Lancet,* January 1st, 1853.)

"Bad accommodation—profuse expenditure—negligent attendance—and extreme discomfort; these are the 'benefits' which residents enjoy. If abuses spring up, they are allowed to continue; and if grievances arise, they are carefully nurtured. The treasurer is silenced, and the warden submissive at the authoritative dicta of a 'maître d'hôtel,' while temperate suggestion go unregarded and moderate alterations are facetiously waived." (Third Year Student's address to the Governors.)

AFRICAN BIRTH CUSTOMS

By COL. L. B. CANE

The birth of a child is awaited with anxiety, and requires many consultations with the soothsayers to determine the outcome of such an important event.

Girls are preferred since they will be more valuable as merchandise, though boys are useful to help their fathers as guardians of cattle and to help in the frequent rebuildings of their houses.

Infantile mortality is very high, fully 40 per cent. in the first year. This is attributable to lack of elementary hygiene by native midwives, the seclusion of the infant at the back of the hut away from sunlight and with very little air until after the separation of the umbilical cord, the custom of giving infants unsuitable cooked grain as food, and to venereal disease.

The pregnant woman carries on with her ordinary work until her time draws near, when her husband will seek for a midwife. When the labour pains begin she is seated upon a low stool or upturned platter on which food is carried.

She is supported from behind by a friend while the midwife receives the child. As soon as it is born the midwife sucks the nostrils to encourage breathing, measures the umbilical cord down to the child's knee, and cuts it off with an arrow barb. Until it falls off the baby must be carried carefully lest the cord should fall across the genitals, which is considered may cause inpotence.

Immediately after birth the baby is washed in cold water smeared over with oil, and then fed on light gruel.

To compel the infant to swallow the nose is pinched.

When this causes crying it is attributed to the spirits of ancestors. Diarrhœa, which is frequent and often fatal, is attributed not to the diet but to bewitchment.

The mother washes herself with hot water, and is then massaged in a crouching position by the two women.

The midwife then washes her breasts with hot water, and squeezes the first milk from them until there is a free flow.

The mother then sits by a hot fire, and when she is thoroughly warm is shown her baby.

Besides the two helping women no one is allowed to enter the hut, outside which the father awaits anxiously the result.

Should there be any delay in the placenta coming away he kills a goat, and the mother is given gravy made from it.

The placenta is buried in the mud floor of the house, except in the case of twins, which are considered unlucky, when it may be buried in a well instead of in the house.

Malpresentations are also considered unlucky, and in former times such children and all twins were generally put to death.

Soon after death the child is named by the father, it being customary to give the names of the grandfathers or grandmothers according to the sex. Should the baby cry much it is considered not to like its name, and this is then changed.

The child is not taken out of the house for six or seven days, during which time it is nursed by the mother, who usually has a small girl to help her until she has recovered her strength. The child is not weaned for a year or more, and is carried on the mother's back in a sheepskin sling, often hung with small belts and other articles to amuse it.

If the mother dies in childbirth, the unborn baby is removed before burial. If a girl the husband must pay to the mother's brother two cows, or for a boy one cow, irrespective of whether the child is born alive.

If a woman dies before showing signs of pregnancy the father must return the dowry to the husband, who in return gives three goats to the father. This is regarded as payment for the stomach to be pierced before burial, as is the custom.

The husband of a barren woman, after all remedies for making her pregnant have failed, may obtain another wife on payment of an ox to the first wife's father, from whose family the new wife is selected.

The first time a new-born baby is taken outside its home, if a boy the mother makes a little bow about six inches or a foot long, and tiny arrows which she carries in her hand as she walks round with the baby on her back. This is a sign of his future work, to look after the cattle with his bow and arrows as weapons.

If a girl, the mother carries about a tiny gourd containing the usual food relish, as a sign of her future duties in preparing food for the household.

TWINS

The birth of twins is universally considered bad luck, and in former times, and to-day probably in remote parts, they are killed. Whether actually put to death, or only symbolically killed, elaborate ceremonies must in every case be performed lest misfortune or death should come to the parents, or dire calamity befall the whole community.

In some tribes the relatives, on being informed of the birth of twins, meet together to decide whether both or only one of the twins should be killed. Their birth is considered to endanger the lives not only of the parents but of the near relations and if allowed to live every calamity that may affect the community, of which the commonest is the failure of crops through drought, will be attributed to this.

In former times children born in the wrong position, and who cut their upper teeth first were also considered to bring ill-luck and were therefore put to death.

In most cases the midwife is responsible for carrying this out, on receipt of the order from the relations. This is done usually by overfeeding them with a mixture of hot water and flour. If there has been no midwife in attendance the father himself suffocates them by closing their mouth and nostrils with his hand.

The rule that they must then be buried near a water hole or stream indicates their connection with failure of the rains and consequent failure of crops leading to famine.

The ceremonies connected with the birth of twins vary in different parts.

As an example of those in one district the following brief outline may be given :—

On the morning after the birth, couples who have themselves had twins go into the bush and collect two pieces of bark of a certain tree, about two feet square, a small specimen of another tree, an aloe plant, and some long grass.

Entering the house they fasten the twins upon the two pieces of bark with the grass, stick the small tree upright in the ground outside the hut and beside it bury the afterbirth in an earthenware pot—over this is planted the aloe which is left to root there.

After these preparations the parents are led to the spot, the man carrying a stick and the woman a hoe. With them is the midwife carrying a small basket full of seeds.

They go round the village, and in front of every house the husband scratches the ground with the stick, the wife hoes, and the midwife throws in a little seed and replaces the earth with her foot. The planting of the seed in front of every house is considered to remove the danger of the community's crops failing owing to the birth of twins.

The rest of the ceremonies can now be postponed until a supply of native beer has been brewed, or until some date is agreed upon.

On the approved day all those concerned go into the hut together with the parents. The ceremonies then fall into two parts, the first a symbolic repetition of the birth, the second a symbolic, or actual, burial of the twins.

In the first the parents are rubbed all over with a concoction of certain leaves and roots, including some pieces of the bark of the tree on which the twins had been tied.

The parents then have to lie upon a bed of thorns whilst the others sing around, to the effect that the parents who had produced twins are now exhausted. They are then lifted off the thorn beds, and rubbed with oil.

The second part of the ceremony, the actual and symbolic burial of the twins, then follows.

A pot of beer, two small calabashes containing flour and water, some strings of beads, a pot of water, hollow reeds, an axe and a pot-ladle are brought, and then a small parcel representing the twins is put into the pot of beer. The axe, representing the father, and the pot-ladle, representing the mother, are put on top of the pot.

After a dance, called ngoma mabasa, the parcel is taken out of the beer pot and buried in a hole.

This act signifies the burial of the twins, unless they have been actually killed, in which case after these ceremonies they are buried.

The two calabashes are then prepared by inserting the hollow reeds into the mouth of each and closing it around them with the wax of wild bees.

These are considered in some way to represent the twins, and every person present sucks

out a mouthful of the contents of the calabashes and spits it on to the parents.

The calabashes are then decorated with the strings of beads, and taken to the house of the parents, where they are kept as paraphernalia of the family's ancestor worship.

For most of these details of birth customs I am indebted to some notes by R. W. Wyatt, formerly Assistant District Officer at Singida, and to an account of Sukuma Twins ceremonies by H. Cosy, published in Tanganyika Notes and Records No. 17.

CORRESPONDENCE

To the Editor, St. Bartholomew's Hospital Journal

Sir,

Readers of Professor Mayneord's review of Mr. Phillips' "Supervoltage X-ray Therapy" may have noticed his phrase: ". . . no one could fail to be impressed by the magnitude of the task and the technical skill brought to bear upon it" (*i.e.*, the designing and building of this machine).

A trifling but amusing sideline of this was the arrival one morning of the heaviest equipment in the Square. We are accustomed to view with awe and admiration the twice daily miracle of the Hospital laundry van steaming through the Memorial Arch at high speed with scarcely an inch to spare on each side. But the run up from the Smithfield Gate clearly disconcerted the driver of this eight-wheeler-cum-trailer. He stopped short of the archway and descended to reconnoitre the position. Encouraged by Mr. Powditch and the Beadle he pushed the snout of the lorry halfway through and fouled his anterior near side back wheel. He then reversed.

The fact that he eventually accomplished this difficult passage is self-evident unless Mr. Phillips can be credited with an astonishing imagination and the Governors with a high degree of credulity. But how he accomplished it is a match for a more facile pen than mine. The most apt comparison I can draw, and one acceptable to those who know the Norfolk Broads, is of a wherry passing under Potter Heigham bridge at high tide when to the observer following in another craft the archway not only appears to be, but is, completely filled.

Yours faithfully,

HOGARTH.

Officers' Mess,
R.A.F. Station,
West Kirby, Wirral.

CRICKET

Optimistically, the Cricket Club decided to run two elevens this season with the aid of a number of players who were willing to make the journey from Hill End or Cambridge each week. At first it appeared that this optimism would be justified, and that regular 2nd XI matches would be possible. However, at the beginning of June the rival attractions of tennis and athletics and the proximity of examinations led to a deficiency of players and the necessity for cancelling the 2nd XI fixture against the Old Rutlishians 2nd XI.

Owing largely to lack of practice—as has been evidenced by more recent successes—the initial efforts of the 1st XI were not encouraging. Elliott's sterling performance on Whit Monday at Gerrards Cross appears to have had a cheering and tonic effect upon the rest of the team.

May 12th, v. Orpington. Away. Lost: St. Bart.'s Hospital 63, Orpington 131 for 6.

The Hospital batted first, and wickets fell with distressing regularity. Only Hawkes, Morgan and Juckes reached double figures before the innings closed at 63. A series of "long hops" and dropped catches enabled Orpington to pass this total for the loss of two wickets.

May 19th, v. Lensbury. Away. Lost: St. Bart.'s Hospital 61, Lensbury 110.

Despite the fact of a good wicket and only moderate bowling, the Hospital batting first lost 8 wickets for 20 runs. Enquiries revealed that the lowest total score registered on this ground was 30; and it was only the spirited and confident performance of Ellis (32 not out) and Mear (14) that prevented the establishment of a new low record. Nevertheless, the total of 61 was passed by Lensbury for the loss of 6 wickets despite the bowling efforts of Juckes (4 for 30) and Mear (3 for 16).

May 21st, v. Gerrards Cross. Away. Draw: St. Bart.'s Hospital 136, Gerrards Cross 124 for 7.

The early batsmen again collapsed, save for Gourlay (19). However, Elliott (53) hit the bowling with most creditable and pleasing vigour all over the field, and was assisted by Juckes (25) in carrying the score to the respectable total of 136. Gerrards Cross had scored 124 for 7 when rain prevented further play.

May 27th, v. Broxbourne. Away. Won by 10 wickets. Broxbourne 52, St. Bart.'s Hospital 124 for 4.

Fine bowling by Mear (7 for 21) on a soft wicket ensured that there would be plenty of time for social activities after the match. Paget (32) and Murley (44) enabled Bart.'s to pass the Broxbourne total of 52 without loss.

June 2nd, v. Old Rutlishians. Home. Won by 8 wickets. Old Rutlishians 95, St. Bart.'s Hospital 144 for 3.

The Old Rutlishians' wickets fell regularly against the bowling of Elliott (4 for 26) and Juckes (3 for 28), and by tea they were dismissed for 95. Dixon (34) batted very well before being unlucky enough to step on his wicket after executing a powerful hook. Murley (44) and Gourlay (41 not out) enabled Bart.'s to win by 8 wickets.

A DREAM ON A PREVIOUS THEME

THE KING'S ENGLISH

First Doctor: I think he is a gastric ulcer.
Second Doctor: I deny it; he is a man.
First Doctor: I mean he is a case of gastric ulcer.
Second Doctor: I deny it; he is a patient, not a case.
First Doctor: Have it your own way; it is a case of gastric ulcer.
Second Doctor: I agree with you; he has a gastric ulcer.

THE JOURNAL, July, 1926.

THE DRAMATIC VERSICLES OF THE SEVEN SPECIALISTS, TOGETHER WITH THEIR UNACCEPTED DEPARTMENTAL INVENTORY, COVERING THE TRAINING TO PRACTICE MEDICINE.

They all stood round the bed,
And one by one they said:

The Anatomist: I warned you that you should have learnt your stuff in my department, and I told you that it was what you would be dealing with.
Response: You must know your Anatomy ... ... — The Body ...

The Pathologist: The nature of the lesion we can safely assume to be degenerative. The degeneration will progress.
Response: Never miss a Post-mortem ... ... — A part gone wrong ...

The Clinician: Now he is in your care. Before you can treat the disease, a correct diagnosis will have to be made.
Response: You must know your chests ... ... — The body-in-disease ...

The Doctor: He must trust you; get to know your patient.
Response: Medicine is an art ... ... — The man-in-disease ...

Pathological Man

The Psychologist: But this man has got a mind; the mind influences the body. If you'd study the mind you'd be complete in your outlook and efficient in your methods. And the subject is absorbingly interesting.
Response: Achieve mental adjustment and maintain an even keel ... ... — Psychological Man

The Doctor of Social Medicine: This is not only a patient in Hospital. He is a man with a home and a family and with wages to be earned. His incapacity is a social liability, his health a social asset.
Response: He lives in society ... ... — Man-in-society, Industrial Man, Economic Man

Sociological Man

Carried forward ... ... — Natural Man

The Doctor of Theology: Man is a part of a far bigger scheme than this. Created by God, he fell at the Fall, which was the occasion of the Redemption. He is an agent in the operation of the Paraclete.
Response: Man is systematised theologically ... ... — Theological Man

The Total is declared to be ... — THE WHOLE MAN

Then the Examiner came along,
His was just a confirmatory song:

The Examiner: Gentlemen,
The course is now finished,
From A to Z.
Let all else be banished:
Take out the bed.
No sooner had the command been obeyed
Than the group, which had turned to go, was stayed;
For there in their midst they were shaken to see
The Assessor Himself. He made this decree:

The Assessor: I've looked through this list, and you've made an omission;
The sum is not finished until it is on.
What you have left out is the essential commission
In being a doctor—the *sine quâ non*.

(*Exit the Assessor.*
Noises off of sounding brass and tinkling cymbals.
In silence the eyes of the group turn to where the bed had stood. They see only its late occupant lying dead upon the floor.)

THE JOURNAL, July, 1945.

NAT.

OLD WIVES' REMEDIES

By JOSIAH OLDFIELD

The French give their midwives the charming title of "Sage Femme."

Here in England, we are all too ready to think of old wives' remedies as being things to laugh at, and not as manifestations of experience and wisdom.

Our greatest teachers, however, from Aesculapius onwards, have impressed upon all students of medicine that wisdom is gained by experience and observation.

As I look back upon half a century or more of medical work, I recognise that I owe perhaps far more to actual experience, and to opportunities of observation, and to a receptive mind, rather than to the teaching of the great men from whom I have gained much knowledge.

As I think of these things, my mind goes back to early childhood, and village life, and I am quite satisfied that the medical profession owes a great deal to the women of the world, and especially to the country women of the world, upon whom has often fallen the chief burden of looking after the sick and of tending the wounded.

The lives of mediæval women, whether Abbesses, Countesses or Baronesses, were always taken up with the distilling of spirit medicines and the making up of herbal infusions, and all sorts of what they called "simples" and "still room" secret potions.

The stillroom was associated in every early castle with the Chatelaine of the Castle, and with the intelligent women who had grown up round her and who had become her teachers and who had made her of value as a power of healing.

I think, perhaps, one of the most important discoveries made by these wise women was the value of the Vitamin.

Of course, they did not know the name and had no idea as to what was the rationale by which disease was prevented or cured by these small elements in the food, which apparently made all the difference between sickness and health.

It was noticed that as winter came nearer to its end, the health of young people especially, deteriorated, and little by little, there became associated with the end of winter, something which showed that winter dietary would always cause diseases which spring foods alone would cure.

The old jingle had great truth in it,

"In Spring we turn to Saladies,
To cure the Winter's maladies."

What did these Abbesses and Old Wives teach?

They said, "Take watercress, which can be gathered in the winter, and eat it."

"Begin the day with a Tisane made by stewing dandelion leaves or dandelion roots or young nettle tops."

They prescribed a dinner of herbs made from the earliest of all growing things in Spring, like Robin-run-ith-hedge, coltsfoot, dandelion, and specially young nettle tops.

They advised a girl who suffered with anæmia to go into the woods and tap the birch trees in the month of February or March, and let that sap run out into a bottle and use that, a wineglassful at a time, as a medicament.

The most important of the actual medicinal herbs were always those that came in the Spring, because that was the time when a prescorbutic condition showed itself very widely throughout the land—young men and young women always died in their hundreds in early Spring.

Blotches and blains and boils, sore gums and broken nails, a loss of colour and strength and appetite, recurrence or Leucorrhœa, were the commonest symptoms which were prevalent at the end of a time when people had lived for months upon salt meat and upon rye bread and cheese.

To-day, the manufacturer steps in and makes a fortune, but yet there is nothing so good on the market as an antiscorbutic, as the early Spring growths, found in every country hedge, growing from March onwards.

Scurvy, however, to-day is comparatively unimportant, but its disappearance is caused by carrying out the Old Wives' regimen—by using all through the Winter salads of all sorts, a plentiful supply of fruit brought from every land, and by adding to the diet a great variety of green and freshly-growing vegetables without stint.

Another scientific truth was discovered by the Old Wives, and that is connected with the phenomenon that we find in Nature, by which animals are armed against those dangers to which they are specially exposed.

There is possibly no more serious infection than is found in micro-organisms that grow and multiply upon decaying flesh foods.

Whatever advantages dead flesh may have, it is responsible for bringing into the body of humans many varieties of septic micro-organisms from which Fruitarians are free.

Carnivorous animals are therefore specially provided by Nature with a protective saliva and, therefore, the Old Wives watching how dogs and cats licked the wounds of their young and of themselves, put two and two together and said, "A dog's lick prevents a wound becoming septic."

Aesculapius used snakes, also, but the commonest thing in village life was to copy Lazarus, and invite the dogs to lick any wounds or sores from which they might suffer.

They did not know anything about micro-organic life, nor about the immense variety of septic organisms, but they just had learned that a dog's spittle was powerfully preventive against a wound going, as they said, "the wrong way."

Another delightful treatment was to send anyone who suffered from any eye trouble whatever, to the nearest spring, where water came directly out of the earth, and they were satisfied that washing and bathing the eye with this fresh water was a powerful healing treatment.

There is no doubt that to-day we recognise that bathing by cold water is one of the most valuable methods of treating inflammation in a sensitive part of the body.

The effect upon the whole nervous system is far greater than would be expected to result from the mere application of constant splashing of cold water on the delicate parts of the body—but it is so.

The Red Indians would put a man who was badly wounded, or whose wounds had become septic, to sit or stand under a waterfall for an hour! It was a drastic but a splendid remedy!

The Abbesses mingled religion with their treatment, and associated a benediction of spiritual power with many wells. These they then called "Holy Wells." It was an excellent treatment, and is made none the better to-day by adding boric acid to spring water, for external application to sensitive areas of the skin.

I remember how children, who suffered with jaundice, were bidden to hunt in the hedges for a shrub of Berberis, because the inside of its bark was safron coloured. The early sense of "homeopathy" made people go to take a yellow medicine to cure a disease which manifested itself in a yellow colour!

I say nothing about warts—they are too closely associated with witches, but I have certainly seen warts disappear under very unorthodox treatment.

One of the earliest remedies for sore

throats was an old stocking taken off the foot, warm and moist with body moisture, and in those days perhaps it had not been washed for a week, and wrapped round the throat and neck and then covered over with a shawl.

It was efficacious and was one of the early forms of what to-day we call "a compress."

In my travels through the world I have learned never to laugh at nor to despise any treatment of any sort, however fanciful it might appear, because I have learned that it is by "trial and error," and "trial and success," that Nature herself has proceeded on her great pathway of Evolution.

BOOK REVIEWS

OPERATIVE SURGERY. Described for Nurses. By O. Stanley Hillman. Published by Faber and Faber, Limited.

This book will probably meet the requirements and prove of considerable help to nurses who anticipate specialising or are already engaged in theatre work.

It will, however, be of little value to nurses in training, who already have a wide range of information to grasp in a short time.

Some of the diagrams are not really very clear, and illustrations of special instruments might have been added with advantage.

AIDS TO FEVERS FOR NURSES. By Joyce M. Watson, S.R.N., S.R.F.N., D.N. (London). Published by Baillière, Tindall and Cox.

The publication of a Second Edition of this book proves its value.

Miss Watson has added to this edition much new and useful material, and at the same time maintained the object of the "Aids Series" to provide necessary information in a readable form.

The chapter dealing with Chemotherapy is of interest to nurses, and the appendix giving a table of infectious diseases and their characteristics will be an excellent guide for all nurses, the State Registered Nurse as well as the Student Nurse.

RECENT ADVANCES IN NEUROLOGY AND NEUROPSYCHIATRY. By W. R. Brain and E. B. Strauss. Fifth Edition. Messrs. J. & A. Churchill. Price 18s. Pp. 363.

The authors of this book point out in the preface that there is no hybrid specialist—the neuropsychiatrist; each specialist, the neurologist, the psychiatrist and the psychotherapist must have a working knowledge of the subjects covered by the other two. All too frequently this knowledge and interest is lacking. This book is designed to keep such interest alive.

This, the fifth edition, has been extensively rewritten, as indeed the advances of the past five years have warranted. We may mention only a few of the vast range of subjects dealt with. Convulsant Therapy and Prefrontal Leucotomy are discussed fully. It is a pity that the authors do not consider the time is ripe for a thorough statistical analysis of convulsant therapy. This treatment has become widely known and criticised; an analysis of the results would give a factual basis for criticism.

Head injuries, peripheral nerve injuries and sciatica are dealt with at length, including the valuable material gathered during this war. Electroencephalography is discussed. The physiology and pathology of sleep are dealt with in an interesting chapter. The pharmacology of sedatives and hypnotics could well be given more attention as these are prominent weapons in the general physician's armoury. Proprietary names of drugs are used freely, a practice which has little to recommend it.

The student will find this book valuable for reference, using it in conjunction with a textbook. It is very readable and its clarity of language will help him understand more "wooly" parts of other books.

DISEASES OF THE NERVOUS SYSTEM. By F. M. R. Walshe. Fourth Edition. E. & S. Livingstone. Price 15s. Pp. 360.

This textbook of nervous diseases is well known to students, and its range is ideal for their use. It is well written and pleasing to read. In this edition there are many more useful diagrams in the text.

In the light of recent developments the chapters on peripheral nurve lesions, herpes, zoster, cervical rib and sciatica have been thoroughly revised. The chapter on psychoneuroses has been expanded, in it the psychoses are touched upon. This chapter is well balanced and should be included in a textbook of nervous diseases, but the subjects are not dealt with fully enough.

Psychoneurotic symptoms can be recognised *clinically* rather than by the tedious process of exclusion which will serve only to establish forever in the patient's mind the neurosis which might have been cured easily with an early diagnosis. Most general practitioners will agree that the majority of their patients have no organic disorder but a mental upset. Yet no attempt is made to treat them as such—apart from the suggestion that accompanies the medicine bottle. In a book for the general reader the clinical diagnosis and non-specialist treatment of mental disorder should receive adequate attention.

TEXTBOOK OF GYNAECOLOGY. By Wilfred Shaw, Fourth Edition. J. & A. Churchill. Price 24s. Pp. 636.

This standard textbook of gynaecology is in its fourth edition since it appeared in 1936. It is designed for the student, its scope is adequate for all examinations, and it is thoroughly up to date.

An attempt is made to deal with endocriminology as a whole, and not only as it affects gynaecology directly. In view of their importance and of recent advances this is a valuable addition, but the chapter is too short and the discussion of each gland is rather scrappy. A thorough outline of physiology of the endocrine glands in their relation to sexual function would not be amiss.

Leucorrhoea is one of the most common gynaecological symptoms and perhaps the most difficult to treat. The chapter on leucorrhoea is too vague. The various causes and the treatment are all given, but as with so many textbooks no attempt is made to access the value of the several treatments advised, or the importance of the causes. Students are accused by their teachers of being vague and indefinite, medical textbooks frequently reveal one source.

RECENT PAPERS BY BART'S MEN

COHEN, E. LIPMAN. "Conjunctival Hæmorrhage after Bismuth Injection." *Lancet*, May 19th, 1945, p. 627.

GORDON, MERVYN. "The Spirit of Research." *Lancet*, June 30th, 1945, p. 807.

HAMBLY, E. H. T. "Fractures: Part I. Principles of Diagnosis and Treatment." *Post-Grad. Med. J.*, April, 1945, pp. 128-133.

KEYNES, G. L. "The Surgical Treatment of Malignant Disease." *Practitioner*, July, 1945,

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